



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,925	11/16/2000	Shuji Ono	3562-0108P	2972

7590 05/04/2006

Birch Stewart Kolasch & Birch LLP
P O Box 747
Falls Church, VA 22040-0747

EXAMINER

MISLEH, JUSTIN P

ART UNIT PAPER NUMBER

2622

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/712,925

Applicant(s)

ONO, SHUJI

Examiner

Justin P. Misleh

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 31 is/are pending in the application.
- 4a) Of the above claim(s) 11 - 13, 15 - 21, 27 - 29, and 31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 10, 14, 22 - 26, and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4-11-06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. **Claims 11 – 13, 15 – 21, 27 – 29, and 31** are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 30, 2005. However, in the reply filed February 10, 2006, Applicant indicated that Claim 31 is also drawn to the elected species of Figures 1 – 5. The Examiner disagrees with Applicant's position. Claim 31 requires the "modules" shown in nonelected species of Figure 10.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

3. **Claims 7 and 8** are objected to because of the following informalities: minor typographical error.

These claims are dependent and recites therein, "said depth distribution"; however, no "depth distribution has previously been recited. For the purposes of examination, the Examiner will interpret "said depth distribution" as "a depth distribution".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1 – 3, 5 – 7, 9, 10, 22 – 24, and 26** are rejected under 35 U.S.C. 102(e) as being anticipated by Lyons (US 6 734 911 B1).

6. For **Claim 1**, Lyons discloses, as shown in figures 1A, 2A, 2B, 3A, 4A, 5A, 7A, 9, 11, and 12, an image processing apparatus (14 – figure 1A), comprising:

an image data input unit (17) for inputting image data (28) of an object (26/27);

a range setting unit (15) for restricting a searching range in the depth direction (“narrow-angle field of view”; see column 11, line 61 – column 12, line 20) for searching a main object (21) from the object (26/27) using the input image data (28); and

a partial image extracting unit (15/222) for extracting from said image data, the part of an object included in said searching range as a partial image (“central region 26” – see column 7, lines 55 – 65 and column 8, line 11 – 22).

7. For **Claim 22**, Lyons discloses, as shown in figures 1A, 2A, 2B, 3A, 4A, 5A, 7A, 9, 11, and 12, An image processing method, comprising:

inputting image data (17) of an object (26/27);

setting a searching range (15), which defines a depth length for searching a main subject (“narrow-angle field of view”; see column 11, line 61 – column 12, line 20) in said image data (28);

extracting from said image data (15/222), the part of an object included in said searching range as a partial image (“central region 26” – see column 7, lines 55 – 65 and column 8, line 11 – 22), based on a depth distribution information (“different focal lengths in the radial and tangential planes”; see column 5, lines 53 – 57) showing the distance between a camera and each part of said object included in said image data; detecting said main subject (21) said partial image; and receiving a predetermined main subject information relating to the detected said main subject.

8. As for **Claim 2**, Lyons discloses, as shown in figure 1A, wherein said image data input unit comprises a means for inputting a parallax image (“different focal lengths in the radial and tangential planes”; see column 5, lines 53 – 57), which picks up an image of said object from a plurality of different perspectives, and the image processing apparatus (222) further comprises a depth distribution information receiving unit for receiving said depth distribution information based on said parallax image (28).

9. As for **Claim 3**, Lyons discloses, as stated in columns 7 (lines 55 – 65) and 8 (lines 11 – 22) further comprising a main subject detecting unit (15/222) for detecting a main subject (21) from said partial image (“central region 26”) and receiving main subject information.

10. As for **Claims 5 and 23**, Lyons discloses, as shown in figures 11 and 12 and as stated in column 11 (line 61) – 12 (lines 20), said range setting unit (15) comprises a means for setting a

Art Unit: 2622

first searching range (“narrow-angle field of view”) and a means for setting a second searching range (“wide-angle setting”), which differs from said first searching range;

said partial image extracting unit (15/222) comprises a means for extracting the part of said object included in said first searching range (Step S125) as a partial image and a means for extracting the part said object included in said second searching range (Step S123) as a second partial image (Steps S123 and S125 indicate the part of said object is included in both searching ranges,); and

said main subject detecting unit (15/222) comprises a means for detecting (Step S122) said main subject (21) from said first partial image and a means for detecting (Step S122) said main subject (21) from said second partial image when said main subject is not detected from said first partial image (see figure 12).

11. As for **Claim 6**, Lyons discloses, as shown in figures 11 and 12, wherein said range setting unit (15) sets a predetermined depth length (“narrow-angle field of view”) as said first searching range and sets the depth length contiguous (see column 12, lines 10 – 20) to said first searching range as said second searching range (“wide-angle”).

12. As for **Claims 7 (please see objection above), 8 (please see objection above), 24, and 25**, Lyons discloses, as shown in figures 11 and 12 and as stated in column 5 (lines 52 – 57), wherein said range setting unit (15) sets the depth length (“narrow-angle field of view”), which includes an independent object (21) existing at the nearest distance (i.e., zoomed-in), as said first searching range based on a depth distribution information (see column 5, lines 52 – 57) and sets the depth length contiguous to said first searching range as said second searching range (see figure 12).

Art Unit: 2622

13. As for **Claim 9**, Lyons discloses, as shown in figures 11 and 12, said range setting unit (15) sets a different said searching range (Step S123) when said main subject is not detected (Step S122) in said searching range set by said range setting unit (15); said partial image extracting unit extracts again (Steps S124) said partial image; and detects again said main subject.

14. As for **Claims 10 and 26**, Lyons discloses, as shown in figures 11 and 12 and as stated in column 11 (line 61) – 12 (lines 20), wherein said image data input unit is an image capturing unit (17/51) for picking up an image of said object, comprising: a photographic condition setting unit (67) for setting a photographic condition (zoom condition) based on said main subject information; and an image capturing control unit for controlling imaging by said image capturing unit based on said photographic condition (see figure 12).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. **Claims 14 and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons.

17. As for **Claims 14 and 30**, Lyons inherently discloses wherein said image data input unit is an image capturing unit, which captures an image of said object based on a photographic timing signal. However, Lyons is silent with respect to setting a photographic timing condition relating to the main subject, wherein said photographic timing is predetermined and stored.

However, **Official Notice** (MPEP § 2144.03) is taken that both the concepts and advantages of providing a timing condition storing unit for storing a predetermined photographic timing condition relating to said main subject; and a timing signal output unit for outputting said photographic timing signal to said image capturing unit when said main subject satisfies said photographic timing condition are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to have a timing condition storing unit for storing a predetermined photographic timing condition relating to said main subject; and a timing signal output unit for outputting said photographic timing signal to said image capturing unit when said main subject satisfies said photographic timing condition for the advantage *optimizing exposure and dynamic range of the main subject*.

18. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lyons in view of Hanna et al.

19. As for **Claim 4**, Lyons discloses a main subject detecting unit (15/222) for detecting a main subject (21) from said partial image (“central region 26”) and receiving main subject information.

However, Lyons does not disclose a distinctive parts detecting unit for detecting from said partial image, a distinctive part, which should be included in said main subject; and an information receiving unit for receiving said main subject information based on the position of said distinctive part detected by said distinctive parts detecting unit.

On the other hand, Hanna et al. also disclose an image processing apparatus including an image data input unit, a range setting unit, and a partial image extracting unit. Mores

Art Unit: 2622

specifically, Hanna et al. teach, as shown in figures 1A and 1B, a distinctive parts detecting unit (computer 20) for detecting from said partial image (NFOV camera 14), a distinctive part ("user's eye" – see figure 1B), which should be included in said main subject; and an information receiving unit (18) for receiving said main subject information based on the position of said distinctive part detected by said distinctive parts detecting unit (see column 5, lines 40 – 51 and column 7, lines 17 – 30).

As stated in column 1 (lines 50 – 53) of Hanna et al., at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have included a distinctive parts detecting unit and an information receiving unit (as taught by Hanna et al.) in the image processing apparatus (disclosed by Lyons), for the advantage "identifying objects of individuals in a passive way that is both fast and accurate."

Cited Prior Art

20. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure at least for the reason that each teaches various methods and apparatus for detecting a main subject from an object in an image, with a portion of the references teaching identifying the main subject using a distinctive parts detecting unit.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

Art Unit: 2622

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David L Ometz can be reached on 571.272.7593. The fax phone number for the organization where this application or proceeding is assigned is 571.273.3000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM

May 1, 2006

A handwritten signature in black ink, appearing to read 'David Ometz', with a long horizontal line extending to the right.

DAVID OMETZ
SUPERVISORY PATENT EXAMINER